

ILLINOIS POLLUTION CONTROL BOARD
September 3, 1981

CITY OF KNOXVILLE,)
)
Petitioner,)
)
v.) PCB 81-4
)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by J. Anderson):

On January 12, 1981 the City of Knoxville (City) petitioned for an extension of the variances granted from the finished water standards for gross alpha particle activity and fluoride of Rules 304(B) and (C) of Chapter 6: Public Water Supply, in PCB 80-79, 80-80 (July 24, 1980), the records of which are incorporated herein. Pursuant to leave of the Board, the City corrected deficiencies in its original petition by an amendment filed June 22, 1981. In its original Recommendation of January 19, 1981, and its amendment of July 15, 1981 the Illinois Environmental Protection Agency (Agency) supported grant of variance until January 1, 1984.

As stated in the earlier Opinion, the City of Knoxville, situated in Knox County supplies its 1125 water users from three deep wells (2480, 1380, and 2480 feet). While the City has not provided 1980 or 1981 results of sampling for fluoride, it has provided four 1979 test results showing fluoride concentrations of 2.1, 2.2, and 2.8 mg/l; the maximum allowable fluoride concentration is 2.0 mg/l. A recent analysis (June 26 and July 1, 1981) of the gross alpha particle activity level in the water of the City's distribution shows activity of 30.1 ± 9.10 pCi/l. The testing for radium 226 and 228 required when the 15 pCi/l maximum standard of Rule 304(c) has been exceeded has not yet been done.

In its earlier Opinion at p. 4, the Board noted that the City's discussion of alternatives to treatment and combined treatment for radium and fluoride was deficient. The City's present discussion is also brief. It is stated that an additional complying water source for blending might be available were arrangements to be made for the purchase of water from the City of Galesburg. No details or costs concerning this option are given. The City states that softening some or all of its water possibly could bring it into compliance with both the fluoride and gross alpha standards, but again provides no details or costs. The City does however, reassert, but without updating or modification, its 1980 estimates

that installation of a zeolite softening system to deal with the gross alpha problem would cost \$750,000, and installation of a separate fluoride removing adsorption system would cost another \$750,000. The difference previously noted by the Board between the City's and the Agency's estimated costs were not addressed by the City, but the City has not here challenged the Agency's earlier estimated increase in monthly cost for each service connection of \$4.00 for treatment for gross alpha, and \$4.00 to \$11.00 for fluoride treatment.

In final support of its request, the City notes that both the fluoride and gross alpha standards are being reviewed by the federal government, and states its belief that continued consumption of its water presents no immediate threat to the health of its users.

The Agency does not dispute the City's assertions. It does, however, remark that the City has not submitted to it the compliance plan required by the terms of the Board's Order of July 24, 1980. It is nonetheless recommended that variance be granted until January 1, 1984, the deadline date for exemptions under §1416 of the Safe Drinking Water Act.

It would appear that the City has been less than diligent in investigating means of compliance with the requirements of Chapter 6. Its failure to timely comply with the Board's Order is compounded by its failure to gather previously requested information during the six month period between the filing of its original and amended petitions. However, on balance, the Board finds that the City has proven existence of an arbitrary and unreasonable hardship. Variance is granted until January 1, 1984. The Board, of course, expects no further delays in compliance with its Order. In addition to the other conditions outlined in the attached Order, the City is ordered to commence testing for radium 226 and 228. While the Agency recommends that a compliance program be submitted within 90 days, in recognition of the possibility of regulatory change and the fact that treatment technologies applicable to smaller systems are still being developed, the Board will not require filing of the plan until one year from the date of this Order.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

1. Petitioner, the City of Knoxville, is hereby granted variance from the 2.0 mg/l fluoride limitation of Rule 304(B) and the 15 pCi/l gross alpha particle limitation of Rule 304(C) of Chapter 6: Public Water Supply, until January 1, 1984 subject to the following conditions:

A. Petitioner shall, in consultation with the Agency, continue its sampling program to determine as accurately as possible the level of radioactivity in its wells and finished water. Testing for radium 226 and 228 shall be commenced.

B. By January 1, 1982, the Petitioner shall submit to the Agency a report on the availability of, and economic feasibility of utilizing, alternative water sources which could be blended with its current well source to reduce the fluoride and radiological content of its finished water.

C. Beginning on or about January 1, 1982, and at six month intervals thereafter, the Petitioner shall communicate with the Agency in order to ascertain whether fluoride and radiological contaminant removal techniques specifically applicable to small systems have been developed and identified, and to learn which Illinois landfills, if any, are able to accept wastes generated by softening processes.

D. As expeditiously after identification of a reasonable compliance method as is practicable, but no later than January 1, 1983, Petitioner shall submit to the Agency a program (with increments of progress) for bringing its system into compliance with fluoride radiological quality standards.

E. Petitioner shall take all reasonable measures with its existing equipment to minimize the fluoride in its finished water and shall not allow the fluoride concentration to exceed an average of 4.0 mg/l.

F. Pursuant to Rule 313(D)(1) of Chapter 6, on or before December 30, 1981 and every three months thereafter, Petitioner will send to each user of its public water supply a written notice to the effect that Petitioner has been granted by the Pollution Control Board a variance from the 2.0 mg/l fluoride and 15 pCi/l maximum gross alpha particle activity standard. The notice shall state the average content of fluoride and gross alpha particle activity in samples taken since the last notice period during which samples were taken.

2. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, PWS, Enforcement Programs, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 81-4, dated _____, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Petitioner

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 3rd day of September, 1981 by a vote of 5-0.

Christan L. Moffett
Christan L. Moffett, Clerk
Illinois Pollution Control Board